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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/839,126	04/23/2001	John Charles Debraal	0011-0368P	1628

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EXAMINER	
TUGBANG, ANTHONY D	
ART UNIT	**PAPER NUMBER**
3729	9

DATE MAILED: 04/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/839,126	DEBRAAL, JOHN CHARLES	
	Examiner	Art Unit	
	A. Dexter Tugbang	3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-7,9,10,25 and 26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-7,9,10,25 and 26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/13/04 has been entered.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claims 3 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In Claim 3, the recitation of "which is non conductive" (line 4) is confusing, misleading, vague and indefinite. The recitation contradicts what state the "precursor" (line 4) is in because first the precursor is conductive by reciting "an electrically conductor precursor" (line 4) and then the precursor is <u>not conductive</u> by reciting that it is "non conductive" (same line). Is the precursor conductive or not?

Claim Rejections - 35 USC § 103

5. Claims 1, 3-5, 9 and 10 are rejected under 35 U.S.C. 103(a) as being obvious over Roth 5,826,329 in view of Japanese Patent Publication JP 2-74095, referred to hereinafter as JP'095.

Roth discloses a method of forming electrically conductive pathways comprising: providing a thermal transfer ribbon 46 (in Fig. 3); moving the thermal transfer ribbon past a heat source (thermal print head 42); engaging the thermal transfer ribbon with a receiver substrate 14 as the thermal transfer ribbon moves past the heat source 42 with the receiver substrate utilized as a film; selectively heating portions of the thermal transfer ribbon with the heat source (see col. 4, lines 3-10); and transferring a composition from the thermal transfer ribbon to the receiver substrate or the film, the selective heating enabling a desired pattern of the composition to be transferred to the receiver substrate with the composition being transferred from the thermal transfer ribbon 46 being an electrically conductive material 12 (see sequence of Figures 5 and 6).

With respect to the process steps being drawn to "radio frequency tags", these limitations recited in the preamble of each of the claims are intended use limitations and have not been given patentable weight since the body of the claims do not depend upon the preamble for completeness and the process steps are able to stand alone. *In re Hirao*, 535 F.2d 67 190 USPQ 15 (CCPA 1976).

Regarding Claim 3, the composition (discussed at col. 3, lines 48-65) is considered to be an electrically conductive precursor, which becomes conductive upon application of heat from the heat source 42. As best understood, the claimed "precursor" can be said to be "non conductive" to the extent that at the time of manufacture, the precursor does not have any electrical current flowing through the precursor material.

Regarding Claim 5, the thermal transfer ribbon material discussed by Roth (at col. 3, lines 5+) can be selected such that it would fail to have magnetic particles.

Regarding Claim 9, Roth further teaches using a polymeric film (resins) as the transfer ribbon, coating the transfer ribbon with the conductive material with a wax, and using metallic inks as the composition of the thermal transfer ribbon (see col. 3, lines 9+).

Roth teaches substantially all of the limitations of the claimed manufacturing method except that the receiver substrate is flexible such that it can be called a "flexible receiver substrate" or a "pliable film".

JP'095 teaches the use of a flexible receiver substrate 3, or a pliable film (in Figs. 1 and 2), to thermally transfer a composition of electrically conductive material 5. The benefit of having a flexible receiver substrate advantageously allows drying of the composition of electrically conductive material (see Purpose) during or after transfer.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the receiver substrate of Roth by making the receiver substrate flexible or pliable, as taught by JP'095, to positively allow better drying of the transferred composition of electrically conductive material.

Regarding Claim 10, it is noted that the specific compositions recited for the wax and binders would have been an obvious matter of design choice, since the applicant has not disclosed that the claimed compositions (recited in Claim 10) solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the composition of wax and binders taught by Roth.

6. Claims 6, 7 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roth in view of JP'095, as applied to claims 1 and 3 above, and further in view of Mosher 5,973,600.

Roth, as modified by JP'095, teaches the claimed manufacturing method as previously discussed. The modified Roth method does not teach combining the receiver substrate with a microchip to form an antenna.

Regarding Claims 6 and 25, Mosher teaches a transfer process of combining a receiver substrate with a microchip 94 to form an antenna (spiral pattern 104).

Regarding Claim 7, Mosher further teaches that the antenna is used as a radio frequency tag in which the microchip is affixed to the receiver substrate (see col. 6, lines 16+).

The benefits of the Mosher transfer process by the inclusion of the microchip and antenna on the receiver substrate, allows a manufacturing transfer process to form a tremendous amount of products that have various utility, such as bar code readers, etc. (see col. 1, lines 44+). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Roth by including the microchip and antenna, as taught by the transfer process of Mosher, to advantageously form a multitude of products having various utility.

7. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Roth in view of JP'095, as applied to claim 1 above, and further in view of Schmoock 4,465,538.

Roth, as modified by JP'095, teaches the claimed manufacturing method as previously discussed further including that the composition of the electrically conductive material is at least copper (see col. 3, lines 10-20 of Roth).

The modified Roth method does not mention that the electrically conductive material further includes a reactive material of at least copper sulfate.

Schmoock teaches that it is conventional to use copper sulfate as a reactive material combined with the electrically conductive material, i.e. copper, as a composition that is transferred to a receiver substrate (see col. 8, lines 20-36) for the associated advantages of reducing manufacturing costs (see col. 2, lines 5-16).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of Roth by including the reactive material of Schmoock, to positively reduce manufacturing costs.

Response to Arguments

8. Applicant's arguments filed 1/7/04 (Paper No. 6) have been fully considered but they are not persuasive.

With respect to the applicant(s) arguments drawn to the limitations of "for forming radio frequency tags", these limitations added to the preamble of each of the claims are addressed and inclusive of the rejection set forth above.

With respect to the merits of the prior art not teaching a "flexible receiver substrate" such that the flexible receiver substrate is a "pliable film", it is noted that the receiver board 14 of Roth can be read as a "receiver substrate" and a "film" because the board 14 of Roth engages the thermal transfer ribbon 46. The features of having the receiver substrate being "flexible" or the film being "pliable" is relied upon in JP'095 and is inclusive of the rejection above. The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into

the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Regarding the precursor material of Roth not being non conductive, it is noted that these limitations added to Claim 3 raises a great deal of confusion and uncertainty in the claim language because it is not understood how the precursor material can be both conductive and non conductive.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. Dexter Tugbang whose telephone number is 703-308-7599. The examiner can normally be reached on Monday - Friday 7:00 am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703-308-1789. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A. Dexter Tugbang
Primary Examiner
Art Unit 3729

April 22, 2004